



COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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GRACE ROBINSON HYDE
Chief Engineer and General Manager

June 11, 2018
File No. 31-320.10

Mr. Chris Marks
Denali Water Solutions
2001 West Key Street
Colton, CA 92324

Dear Mr. Marks:

Transmittal of LACSD JWPCP Biosolids Monitoring Report

Attached please find the LACSD JWPCP Biosolids Monitoring Report for April 2018. The Report includes the following data for your files:

- | | | |
|-----------|---|------------------------------|
| Biosolids | - | total and soluble metals |
| | - | digester performance |
| | - | detected priority pollutants |
| | - | miscellaneous constituents |

I certify, under penalty of law, that the Class B pathogen reduction requirements in 503.32(b)(3) and the vector attraction reduction requirements in 503.33(b)(1) have been met. These determinations have been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

I certify, under penalty of law, that the biosolids are non-hazardous in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

Attached are the analytical test results in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

Should you have any further questions or require additional information, please contact Tom C. Fang at (562) 908-4288, extension 2825.

Very truly yours,

Matthew J. Bao
Supervising Engineer
Reuse and Compliance

MJB:TF:GS:nm
Attachments

DMS#4489853

Denali_006364

Notice and Necessary Information
To be Completed by Preparers of Class B Biosolids

Facility Name: Joint Water Pollution Control Plant (JWPCP)

Monitoring Period: 04/01/2018 to 04/30/2018

1. Pollutant and Nitrogen concentrations (report results in mg/kg on a 100% dry weight basis. Attach lab analyses).

	As	Cd	Cu	Pb	Hg	Mo	Ni	Se	Zn	Org-N	NH ₃ -N	% solids
Result	6.79	6.2	306	15.3	0.24	28.5	38.7	23.6	688	49,900	5,740	28.2
Table 3	41	39	1500	300	17	na	420	100	2800	na	na	na
Table 1	75	85	4300	840	57	75	420	100	7500	na	na	na

Sampling date(s): 04/03/18 Sample Number(s): 18040400112

2. Class B Pathogen Reduction: (Check off and fill in applicable portion)

- ☒ anaerobic for 19 days at 35.7 °C (96.3 °F) (range for past month)
Class B: either 15 days at 35°C to 55°C or 60 days at 20°C
- ☐ aerobic digestion for to days at to degrees F / C (range for past month)
Class B: time (days) ≥ 20 - 15(temp, degrees C) for times between 40 and 60 days
- ☐ drying beds for to months (attach records of dates in and out)
Class B: time > 3 months; 2 months > 0 degrees C
- ☐ fecal coliform: geometric mean of seven samples = (attach lab results)
Class B: geometric mean of seven samples is < 2,000,000 mpn
- ☐ lime stabilization: pH at 2 hours after addition =
Class B: pH 2 hours after addition of lime is ≥ 12

3. Vector Attraction Reduction:

- ☒ Option 1: % VS_{in} = 76 % VS_{out} = 60 % VSR = 52 % per Van Kleeck method
VAR: VSR > 38%
- ☐ Option 2/3: Bench scale test: % VSR = after days
VAR: additional VSR < 17% after 40 days (anaerobic), < 15% after 30 days (aerobic)
- ☐ Option 4: SOUR =
VAR: SOUR < 1.5 mg O₂/hr/gram (dry weight)
- ☐ Option 5: Composted days at temps of to degrees F/C (attach times/temps)
VAR: temp > 40 degrees C for 14 days, w/5 days > 45 degrees C
- ☐ Option 6: time alkali added: pH after 2 hours = pH after 22 hours =
VAR: pH ≥ 12 for 2 hours after alkali addition, ≥ 11.5 for additional 22 hrs
- ☐ Option 7: % solids = Stabilization method:
VAR: stabilized solids > 75%
- ☐ Option 8: % solids =
VAR: unstabilized solids > 90%
- ☐ Option 9/10: Applier will inject/incorporate within hours
VAR: injection within 1 hour, incorporation within 6 hours

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title: Matthew J. Bao - Supervising Engineer

Phone: (562) 908-4288 Extension 2824 E-mail: mbao@lacsdc.org

Prepared By: G. Salva GS Reviewed By: T. Fang TF J. Montezuma JM

Signature: [Signature] Date: 6/11/18

BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake -Total Metals Concentrations
mg/kg Dry Weight

Sample No.	Date	% TS	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	Al
18010300161	1/2/2018	28.5	7.32	6.2	93.2	355	16.7	0.88	23.6	44.2	26.2	780	6,470
18020700156	2/6/2018	27.8	7.22	4.9	100	339	18.6	0.53	22.4	41.6	24.7	780	-
18030700129	3/6/2018	28.8	6.94	5.6	100	326	17.0	0.24	26.3	39.7	28.9	712	-
18040400112	4/3/2018	28.2	6.79	6.2	117	306	15.3	0.24	28.5	38.7	23.6	688	6,740
MEAN		28.3	7.07	5.7	102.6	332	16.9	0.47	25.2	41.1	25.9	740	6,610
MAX			7.32	6.2	117	355	18.6	0.88	28.5	44.2	28.9	780	6,740
TABLE 1 LIMITS		\	75	85	\	4,300	840	57	75	420	100	7,500	\
TABLE 3 LIMITS		\	41	39	\	1,500	300	17	\	420	100	2,800	\

Sample No.	Date	% TS	Sb	Ba	Be	Co	Fe	Mn	K	Ag	Tl	Sn	V
18010300161	1/2/2018	28.5	3.6	1,050	0.087	6.3	91,000	215	1,000	3.9	< 0.10	57.2	40.3
18020700156	2/6/2018	27.8	-	-	-	-	-	-	-	-	-	-	-
18030700129	3/6/2018	28.8	-	-	-	-	-	-	-	-	-	-	-
18040400112	4/3/2018	28.2	2.8	1,170	0.058	5.8	90,100	220	876	3.0	< 0.10	44.5	38.3

\ = No limit

ND = Not Detected

- = No Sample

Statistics use detected values only

BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Nutrients and Miscellaneous Constituents
mg/kg Dry Weight (or as indicated)

Sample No.	Date	% TS	Sulfur	PO ₄	NH ₃ -N	Org-N	NO ₃ -N	NO ₂ -N	Boron	Paint FilterTest (ml/100 g)	pH
18010300161	1/2/2018	28.5	29,600	83,800	5,700	51,800	< 139	4.96	23.6	< 1.0	8.2
18020700156	2/6/2018	27.8	28,200	-	5,790	50,300	< 144	3.61	-	-	-
18030700129	3/6/2018	28.8	28,300	-	5,620	48,900	< 139	3.61	-	-	-
18040400112	4/3/2018	28.2	29,000	85,800	5,740	49,900	< 142	< 3.55	20.1	< 1.0	8.2
MEAN		28.3	28,800	84,800	5,710	50,200	ND	4.06	21.9	ND	8.2
MAX			29,600	85,800	5,790	51,800	ND	4.96	23.6	ND	8.2

ND = Not Detected

- = No Sample

Statistics use detected values only.

2nd Quarter BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Soluble Metals Concentrations - mg/L
Analyzed by California Title 22 Waste Extraction Test

Sample No.	Date	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe
18010300164	1/2/2018	132	0.05	0.09	23.3	< 0.01	< 0.005	1.10	0.10	< 0.1	2,250
18040400114	4/3/2018	128	0.05	0.14	22.5	< 0.01	< 0.005	1.12	0.09	< 0.1	2,160
MEAN		130	0.05	0.11	22.9	ND	ND	1.11	0.09	ND	2,210
MAX		132	0.05	0.14	23.3	ND	ND	1.12	0.10	ND	2,250
TITLE 22 STLCs		\	15	5.0	100	0.75	1	5	80	25	\

Sample No.	Date	Pb	Hg	Mo	Ni	K	Se	Ag	Tl	Sn	V	Zn
18010300164	1/2/2018	0.04	< 0.0005	0.25	< 1.0	< 0.050	0.02	< 0.020	< 0.040	< 0.040	0.79	8.3
18040400114	4/3/2018	0.07	< 0.0015	0.39	< 1.0	< 0.050	0.02	< 0.020	< 0.040	< 0.040	0.75	9.3
MEAN		0.05	ND	0.32	ND	ND	0.02	ND	ND	ND	0.77	8.8
MAX		0.07	ND	0.39	ND	ND	0.02	ND	ND	ND	0.79	9.3
TITLE 22 STLCs		5.0	0.2	350	20	\	1.0	5	7.0	\	24	250

ND = Not Detected

\ = No Limit

Statistics use detected values only.

2018 BIOSOLIDS MANAGEMENT PROGRAM

JWPCP Digester Performance

		Detention	
Month	Temp (°F)	Time (Days)	VSD (%)
January	96.1	19	51
February	96.0	19	52
March	96.2	19	52
April	96.3	19	52
MEAN	96.2	19	52
MIN	96.0	19	51

**Semi-Annual JWPCP Biosolids Cake
Detected Priority Pollutants
mg/kg on a Dry Weight Basis**

Date	1/2/18
Sample Numbers	18010300161
	18010300162
Constituent	Result (mg/kg)
Arsenic	7.32
Cadmium	6.2
Chromium	93.2
Copper	355
Lead	16.7
Mercury	0.88
Nickel	44.2
Selenium	26.2
Silver	3.9
Zinc	780
Antimony	3.6
Diethylhexyl Phthalate	78.8